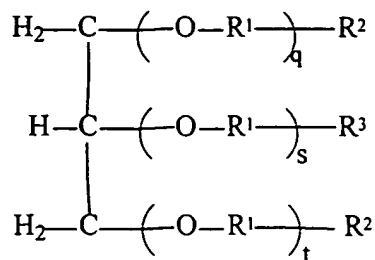


**WHAT IS CLAIMED IS:**

1. A free-radical curable composition which is washable and self-emulsifiable upon mixing with water comprising:

5 (a) a curable glycerol composition having the formula:



10 wherein R<sup>1</sup> is a substituted or unsubstituted C<sub>1</sub> to C<sub>5</sub> alkyl or combinations thereof; R<sup>2</sup> and R<sup>3</sup> are independently selected from the group consisting of hydroxyl, (meth)acrylate and combinations thereof; q, s and t are independently from about 0 to about 35; provided that at least one of said R<sup>2</sup> is said (meth)acrylate; and

(b) a free radical initiator to initiate cure of said composition.

15 2. The composition of claim 1 wherein said free radical initiator includes a heat-curing initiator to produce free radicals by thermal decomposition to cure said sealant.

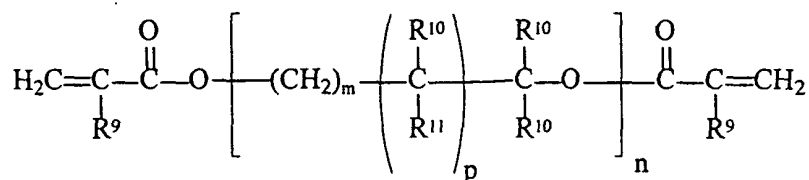
20 3. The composition of claim 2 wherein the heat-curing initiator is selected from the group consisting of a peroxide, a hydroperoxide, a perester, an azonitrile and combinations thereof.

4. The composition of claim 1 wherein said free radical initiator includes a anaerobic-curing initiator to produce free radicals upon the exclusion of oxygen to cure said sealant.

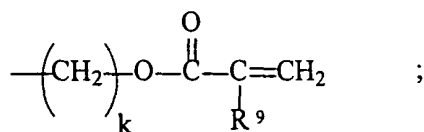
5. The composition of claim 4 wherein said anaerobic-curing initiator is a peroxy initiator selected from the group consisting of hydroperoxides, peroxides, peresters and combinations thereof.

6. The composition of claim 4 wherein said anaerobic-curing initiator includes an anaerobic accelerator selected from the group consisting of tributyl amine, benzoic sulfimide, formamide, copper octanoate and combinations thereof.

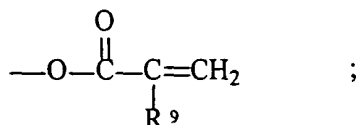
7. The composition of claim 1 further including a poly(meth)acrylate ester having the formula:



wherein  $\text{R}^{10}$  represents a radical selected from the group consisting of hydrogen, lower alkyl of from 1 to about 4 carbon atoms, hydroxyalkyl of from 1 to about 4 carbon atoms and



$\text{R}^9$  is a radical selected from the group consisting of hydrogen, halogen, and lower alkyl of from 1 to about 4 carbon atoms;  $\text{R}^{11}$  is a radical selected from the group consisting of hydrogen, hydroxyl and



m is 0 to about 12, n is equal to at least 1, k is 1 to about 4 and p is 0 or 1.

8. The composition of claim 1 further including a monofunctional acrylate ester, said monofunctional acrylate ester being selected from the group consisting of lauryl

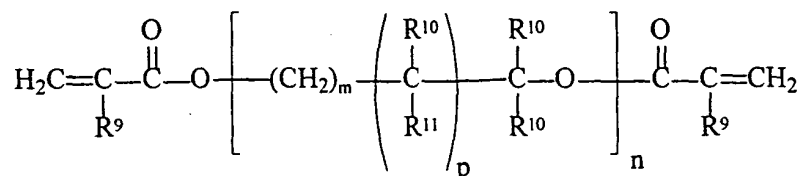
methacrylate, cyclohexylmethacrylate, tetrahydrofurfuryl methacrylate, hydroxyethyl acrylate, hydroxypropyl methacrylate, t-butylaminoethyl methacrylate, cyanoethylacrylate, chloroethylmethacrylate and combinations thereof.

5            9.        The composition of claim 1 further including an ionic surfactant, an anionic surfactant and combinations thereof.

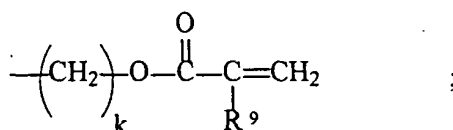
10.        The composition of claim 1 wherein R<sup>1</sup> is ethyl, propyl or a combination thereof.

11.        A free-radical curable composition which is washable and self-emulsifiable upon mixing with water comprising:

(a)        a curable poly(meth)acrylate ester having the formula:

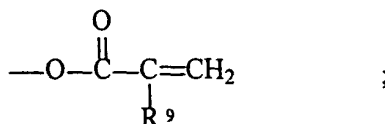


wherein R<sup>10</sup> represents a radical selected from the group consisting of hydrogen, lower alkyl of from 1 to about 4 carbon atoms, hydroxyalkyl of from 1 to about 4 carbon atoms and



R<sup>9</sup> is a radical selected from the group consisting of hydrogen, halogen, and lower alkyl of from 1 to about 4 carbon atoms; R<sup>11</sup> is a radical selected from the group consisting of

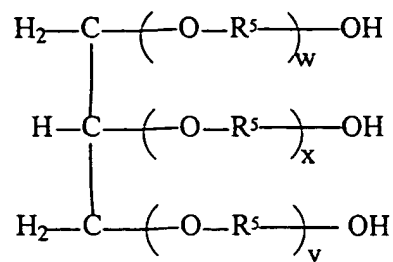
hydrogen, hydroxyl and



m is 0 to about 12, n is equal to at least 1, k is 1 to about 4 and p is 0 or 1;

(b) a washing agent for emulsifying said curable poly(meth)acrylate ester, said washing agent is selected from the group consisting of a glycerol composition, a (meth)acrylate glycerol composition and combinations thereof; wherein

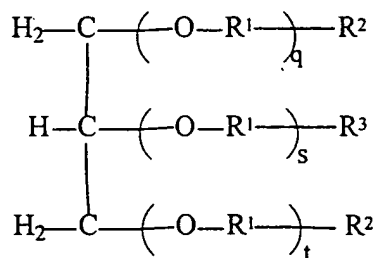
(i) said glycerol composition having the formula:



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wherein  $\text{R}^5$  is a  $\text{C}_1$  to  $\text{C}_5$  substituted or unsubstituted alkyl or a combination thereof; w, x and y are independently from 0 to about 35; and

(ii) said (meth)acrylate glycerol composition having the formula:



wherein  $\text{R}^1$  is a substituted or unsubstituted  $\text{C}_1$  to  $\text{C}_5$  alkyl or combinations thereof;  $\text{R}^2$  and  $\text{R}^3$  are independently selected from the group consisting of hydroxyl, (meth)acrylate and combinations thereof; q, s and t are independently from about 0 to about 35; provided that at least one of said  $\text{R}^2$  is said (meth)acrylate; and

(c) a free radical initiator for producing free radicals to initiate cure said composition.

15

12. The composition of claim 11 wherein said free radical initiator includes a heat-curing initiator to produce free radicals by thermal decomposition to cure said composition.

13. The composition of claim 12 wherein the heat-curing initiator is selected from the group consisting of a peroxide, a hydroperoxide, a perester, an azonitrile and combinations thereof.

5 14. The composition of claim 11 wherein said free radical initiator includes a anaerobic-curing initiator to produce free radicals upon the exclusion of oxygen to cure said sealant

10 15. The composition of claim 14 wherein said anaerobic-curing initiator is a peroxy initiator selected from the group consisting of hydroperoxides, peroxides, peresters and combinations thereof.

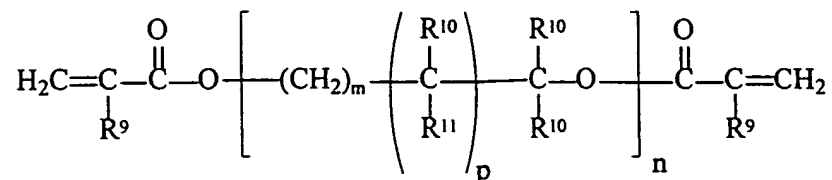
15 16. The composition of claim 14 wherein said anaerobic-curing initiator includes an anaerobic accelerator selected from the group consisting of tributyl amine, benzoic sulfimide, formamide, copper octanoate and combinations thereof.

20 17. The composition of claim 11 further including a monofunctional acrylate ester, said monofunctional acrylate ester being selected from the group consisting of lauryl methacrylate, cyclohexylmethacrylate, tetrahydrofurfuryl methacrylate, hydroxyethyl acrylate, hydroxypropyl methacrylate, t-butylaminoethyl methacrylate, cyanoethylacrylate, chloroethylmethacrylate and combinations thereof.

18. The composition of claim 11 further including an ionic surfactant, an anionic surfactant and combinations thereof.

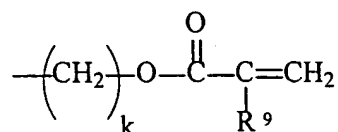
19. A method for washing uncured anaerobic or heat curing sealant from a surface from an article comprising:

(a) impregnating said article with a curable poly(meth)acrylate ester having the formula:

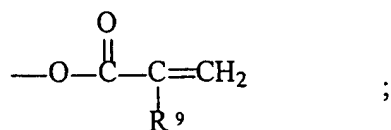


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wherein  $\text{R}^{10}$  represents a radical selected from the group consisting of hydrogen, lower alkyl of from 1 to about 4 carbon atoms, hydroxyalkyl of from 1 to about 4 carbon atoms and



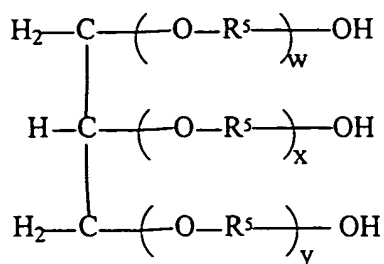
10  $\text{R}^9$  is a radical selected from the group consisting of hydrogen, halogen, and lower alkyl of from 1 to about 4 carbon atoms;  $\text{R}^{11}$  is a radical selected from the group consisting of hydrogen, hydroxyl and



15  $m$  is 0 to about 12,  $n$  is equal to at least 1,  $k$  is 1 to about 4, and  $p$  is 0 or 1;

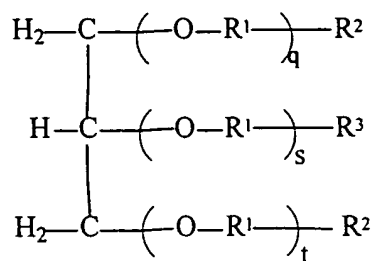
(b) adding a washing agent for emulsifying said curable poly(meth)acrylate ester into a wash tank containing an aqueous solution, said washing agent is selected from the group consisting of a glycerol composition, a (meth)acrylate glycerol composition and combinations thereof; wherein

(i) said glycerol composition having the formula:



wherein  $\text{R}^5$  is a substituted or unsubstituted  $\text{C}_1$  to  $\text{C}_5$  alkyl or a combination thereof;  $w$ ,  $x$  and  $y$  are independently from about 0 to about 35 and

(ii) said (meth)acrylate glycerol composition having the formula:

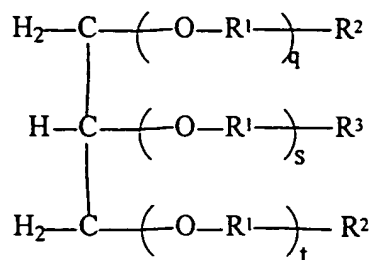


wherein  $\text{R}^1$  is a substituted or unsubstituted  $\text{C}_1$  to  $\text{C}_5$  alkyl or combinations thereof;  $\text{R}^2$  and  $\text{R}^3$  are independently selected from the group consisting of hydroxyl, (meth)acrylate and combinations thereof;  $q$ ,  $s$  and  $t$  are independently from about 0 to about 35; provided that at least one of said  $\text{R}^2$  is said (meth)acrylate; and

(c) washing said curable poly(meth)acrylate ester from the surface of said article in said wash tank containing said aqueous solution and said washing agent.

20. A method of anaerobically or thermally sealing a porous article comprising:

(a) selecting a curable glycerol composition having the formula:



wherein R<sup>1</sup> is a substituted or unsubstituted C<sub>1</sub> to C<sub>5</sub> alkyl or combinations thereof; R<sup>2</sup> and R<sup>3</sup>

5 are independently selected from the group consisting of hydroxyl, (meth)acrylate and combinations thereof; q, s and t are independently from about 0 to about 35; provided that at least one of said R<sup>2</sup> is said (meth)acrylate; and

(b) selecting a free radical initiation to initiate curing of said curable

10 glycerol;

(c) impregnating pores of said article with said curable glycerol and said initiator, and

15 (d) washing said curable glycerol from a surface of said article in a wash tank containing an aqueous solution.